

Low-Cost Telepsychiatry for the Deaf in South Carolina

Jill N. Afrin, M.D. and A. Barry Critchfield, Ph.D.

South Carolina Department of Mental Health, Columbia, South Carolina

Background. In 1989 the South Carolina Department of Mental Health (SCDMH) established the Deaf Services program to supplement the care provided to its deaf clientele by local mental health center psychiatrists with a staff of case managers and other personnel specially trained in serving the needs of this population. Although each client's Deaf Services case manager is fluent in American Sign Language, encounters with (non-signing) psychiatrists required the presence of third-party interpreters for therapeutic reasons. It was felt that quality of care could be improved by using a psychiatrist who specializes in care for the deaf mentally ill and who interacts directly with clients by signing. For these reasons, in 1991 Deaf Services retained one of the authors (JNA, the only such psychiatrist in the state¹) and charged her with providing psychiatric service to all the Program's clientele throughout the state. Dr. Afrin travelled extensively (up to eight hours per day) to provide this service and had to carefully ration her time amongst the various Mental Health Centers where she saw patients.

Telemedicine technology is ideally suited to the practice of psychiatry, as it has little to no impact on the way psychiatrists practice via face-to-face, visual interaction with the patient.² This technology is especially well suited to serving deaf clients since their principal mode of communication is visual. In an effort to improve the quality of service to these patients and to use Dr. Afrin's time more effectively, in 1995 Deaf Services implemented a pilot personal computer (PC)-based telemedicine network.

System. Identical workstations were placed in the Lexington, Simpsonville, and Spartanburg Mental Health Centers and Dr. Afrin's home in the Charleston area (maximum point-to-point distance approximately 200 miles). These workstations (then \$7,000 each) were IBM PCs with Intel 486/66 processors, 16 MB RAM, Microsoft Windows version 3.1, and PictureTel LIVE PCS 100 systems (consisting of an add-in card, a video camera, a half-duplex speakerphone, and software). Also, ISDN service provided by BellSouth, MCI, and AT&T linked the PCs with 128Kbps connections, sufficient for 15 frames/second of 8-bit color video transmission at 320x320 pixels (plus simultaneous audio). Installation costs ranged from \$200 to \$1,648. In the first two years, operating costs (mostly ISDN

service) seldom reached \$100/month/location and frequently were half that amount.

Results. Dr. Afrin no longer travels to see clients at the pilot sites. Hours previously consumed by travel are now available for patient care, and clients can be seen more frequently and in longer sessions. Emergency encounters with Dr. Afrin are now possible from any of these sites. Video quality is sufficient (though minimally so) for clinical interpretation of facial expressions, movement disorders, and sign language "spoken" at a normal rate. Both clients and staff uniformly have reported high levels of satisfaction with the system. By fostering continuity and availability of care, and by eliminating the need for interpreters and the need for travel, the system appears to have largely met its goals of improving the quality of service to these patients and using Dr. Afrin's time more effectively. Approximate savings on Dr. Afrin's travel alone are \$28,000 in the first two years, essentially covering equipment costs for the four sites. Due to the pilot's success, expansion to all other South Carolina Mental Health Centers is under way. Room for improvement exists in the areas of reliability of the communications links, raw bandwidth, audio quality, and whiteboard bandwidth management.

Conclusions. The SCDMH Deaf Services program implemented a pilot PC-based telemedicine network to improve the quality of service to its clientele and to make more productive use of a key staff member. All users express generally high levels of satisfaction with the system. The pilot network was established for a relatively low cost and appears to have been successful in meeting its goals, though rigorous quantitative measures of this success are lacking. SCDMH is now expanding the network throughout South Carolina.

References

1. Craft SF. Telemedicine Services: Serving Deaf Clients Through Cutting-Edge Technology. S.C. Department of Mental Health FOCUS 1996 (Mar.):1-5.
2. Whittemore KR. Telemedicine and Telepsychiatry in the Carolinas: The Promise and the Problems. Carolina Health Services Review 1995;3:155-163.